

WHAT IS CLAIMED IS:

1. An apparatus for processing a semiconductor, which comprises  
an airtight processing chamber separated from the air,  
a wafer stage installed in the chamber, and  
a wafer sensor module equipped with sensor probes, each sensor probe capable of detecting at least one of electric current passing through an article to be processed, voltage and temperature, said wafer sensor module positioned on the stage after carried into the processing chamber by a transporting means for the article to be processed.
2. An apparatus according to claim 1, wherein measured values detected by the sensor probes are converted to optical signals, which are led out from the processing chamber to the outside.
3. An apparatus according to claim 2, wherein the optical signals are received by a means for receiving optical signals equipped on the stage.
4. An apparatus according to claim 1, wherein the stage has a means for applying an optional voltage to at least one point of the wafer sensor module.
5. An apparatus according to claim 3, wherein the means for receiving optical signals processes at least two optical signals caused by measured values in common and leads to outside of the semiconductor processing apparatus.

6. A wafer sensor module comprising a silicon substrate as a main body, and at least one sensor probe and a luminescent device formed on the main body.

7. A wafer sensor module according to claim 6, wherein the silicon substrate as a main body has almost the same shape as a semiconductor wafer to be processed.

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